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TO : Chief, Materials Division

DATE: 30 December 1957

FROM : Chief, Fuels and Power Branch

SUBJECT: Comment on Kuzmin's 19 Dec 57 Remarks Concerning Electric Power Growth in the USSR.

I. Summary and Conclusions

The remarks of Kuzmin before the Supreme Soviet on 19 December 1957 concerning the 1958 plan indicate that electric power capacity in the USSR continues to grow at a decreasing rate. This rate is nevertheless, more than adequate to cover consumption, which is growing even more slowly. The slower rate of growth indicates a possible saving of 15 billion rubles over original Five Year Plan investment plans, and absolutely precludes achievement of any of the original 1960 goals.

II. 1957 Electric Power Production

1. Electric power production in the USSR in 1957 was under even the modest plan. Preliminary production figures report that 209.5 billion kilowatt-hours of electric power will be produced in the USSR in 1957. This is an increase of only 17.5 billion kwh over 1956, compared to an increase of 21.8 billion kwh in 1956 over 1955. It is a percentage increase in 1957 of 9.1 percent as against 12.8 percent in 1956. This performance compares with a planned increase of 10 percent to 211 billion kwh.

2. It should be noted that this is the first time the Soviets have not fulfilled their electric power production plan since 1946, and the first time since World War II that the absolute increase in production has declined appreciably.

3. The poor showing was due in great part to a poor first half year, as explained in M/EP memo of 24 July 57 "Additional Contributions for Soviet NIE: Comments on First Half 1957 Fulfillment". A second half increase in production of 5.5 billion kwh over the first half corresponds with the average half-yearly increases in 1954 and 1955 in amount, but not in percent.

4. The slow rate of power production increase is a result of slow growth in power consumption, and tends to substantiate the slow growth of the basic materials processing industries. Since the industrial production index increased 10 percent in 1957, and the electric power index only 9 percent, this suggests that non-power intensive industries, such as machine building, may have contributed more heavily to industrial growth in 1957 than the power intensive industries, which are predominantly basic materials processing

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industries. The relation between production increases in electric power, industry in general, and basic materials producing industries vs finished product industries was explored in a preliminary fashion in M/EP memo of 24 July 57, cited above.

III. Planned 1958 Electric Power Production

1. Electric power production in the USSR in 1958 will continue to grow at a reduced rate. Production will be 231 billion kwh, according to Kuzmin. This is 21.5 billion kwh more than 1957, an increase of only 10.3 percent.

2. This rate of increase is adequate to reach "800-900 billion kwh in 15 years" as Khrushchev predicted on 6 November 1957. The Khrushchev goal needs an average annual increase of 9.8 percent. Since, however, the growth of electric power production follows a decelerating curve, which implies a continually decreasing rate of increase, a higher rate than 9.8 percent is appropriate at the present time.

3. The 231 billion kwh plan for 1958 definitely precludes attainment of the 320 billion kwh goal for 1960. To attain the latter figure, an increase of over 18 percent per year would be needed. The Soviet abandonment of the 320 billion kwh figure for a more modest 300 billion kwh figure (see Current Intelligence Digest, 1 October 1957) is in line with current developments. But it is now believed that even the Soviet revision to 300 billion kwh is higher than the demand will justify. A 10-11 percent increase in 1959 and 1960 would bring production to 285 billion kwh by 1960. A return to the 12.7 percent annual growth of the 1951-55 period would bring 1960 production to 293 billion kwh. An increase of 14 percent per annum in 1959 and 1960 would be needed to reach 300 billion kwh in 1960.

IV. Planned 1958 Electric Power Capacity Additions

1. Electric power capacity in the USSR will grow at a planned decreasing rate. Capacity in 1958 is to increase by "more than 5 million kilowatts" according to Kuzmin. This indefinite statement is interpreted to mean somewhere between 5 and 6 million kw. Such an increase compares to an increase of 5.5 million in 1956, and to an estimated approximately equal amount in 1957. Since the base is greater in each successive year however, this represents a decline in percentage increases from 14.8 percent in 1956 (an unusually good year), to 11.4 percent 1958. This will be the smallest percentage increase in any year since World War II.

2. Despite the slowing rate of planned capacity increases, the "internal reserves" of the power industry will continue slowly to expand. The 1958 capacity increase rate of 11.4 percent will be greater than 10.3 the percent predicted for production. Therefore

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the capacity utilization rate of the electric power industry in the USSR, which has been steadily declining since 1952, continues to decline. Looked at in another way, the "internal reserves" of the electric power industry continue to increase. The increase is not yet of such proportions, however, as to justify the conclusion that this is a pre-war build up. Utilization will decrease from an average of 5086 hours in 1952 to an estimated 4600 hours in 1958.

3. It is believed that, in the light of these plans, the end-1960 capacity estimates need to be revised downward by about 6 million kw to 66.5 million kw. It was estimated in the M/EP contribution to the Soviet NIE (21 February 1957) that an average rate of capacity increase on 14-14.4 percent would be necessary to meet a capacity of 72.5 million kilowatts by 1960. This was the level M/EP estimated to be the limit of the capability of the power plant equipment and construction industries. It compared to an original (January, 1956) Five Year Plan of 81.2 million kilowatts, and a revised (July, 1956) plan of 75 million kilowatts. Since then, however, it has become apparent that this rate of capacity increase has not been necessary to cover production increases. Assuming that the 11.4 percent rate of 1958 continues in 1959 and 1960, the end-1960 capacity will be 66.5 million kilowatts, a decrease of 6 million kilowatts from the original M/EP estimate.
4. The implications of this slower rate of increase for investment are significant. Assuming that the same unit cost will prevail for the reduced program as far the original program, 15.6 billion rubles can be saved by the smaller capacity needs of the electric power industry. This money, if it is still forthcoming from revenues, could be used to expand the gas and petroleum industries at the much greater rate anticipated.
5. It should be noted, however, that since about 1/3 of the investment revenue for the electric power industry comes from the profits of the industry itself, the decreased production of electric power will cut the revenue available for investment.

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